REMARKS

The Office Action dated March 20, 2008, has been received and carefully noted. The above amendments and the following remarks are submitted as a full and complete response thereto.

Claims 1, 3-6 and 8-51 are pending. By this Preliminary Amendment, Claims 1, 3, 12, 14, 15, 26, 32 and 39 have been amended, Claims 6, 8 and 13 have been cancelled without prejudice or disclaimer, and Claims 50-51 have been added. Support for the amendments to the claims can be found on at least page 9, lines 11-13, page 22, lines 1-3, and in Figs. 4-5 and 16-17 of the application as originally filed. No new matter is presented.

Rejections Under 35 U.S.C. § 103

The Final Office Action rejected Claims 1, 6, 8, 11, 15, 39, 41 and 44-47 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5,741,182, "Lipps") in view of Marinelli (U.S. Patent No. 6,157,898); Claims 3 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. and Marinelli as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of U.S. patent No. 6,312,335 to Tosaki et al; Claims 4 and 42 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. and Marinelli as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of U.S. Patent No. 5,435,554 to Lipson; Claims 5 and 43 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al., Marinelli and Lipson as applied to claims 4 and 42, in view of Tosaki et al; Claims 10 and 49 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. and Marinelli as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of U.S. Patent No. 5,833,549 to Zur et al; Claims 16 and 40 under 35 U.S.C. § 103(a) as being unpatentable over

Lipps et al. and Marinelli as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of U.S. Patent No. 5,779,555 to Nomura et al; Claims 12, 13, 22, 23, 48, 26, 32 and 35-37 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al; Claims 14 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Nomura; Claims 17, 18, 30 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Zur et al; Claims 19 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Tosaki et al; Claims 20 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Lipson; Claims 21 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. and Lipson as applied to claims 20 and 33, in view of Tosaki et al; and Claims 25, 28, 29, 38 and 39 under 35 U.S.C. § 103(a) as being unpatentable over Lipps et al. as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37 in view of Marinelli. Applicants respectfully traverse the rejections for at least the following reason(s).

Claim 1 recites a ball game apparatus that includes, among other features, a racket-type input device having a flat ball hitting portion and a piezoelectric buzzer incorporated in said racket-type input device that has a piezoelectric ceramic plate in which the main surfaces of the piezoelectric ceramic plate are in parallel with a surface of the flat ball hitting portion of the input device.

Lipps discloses a video baseball-simulating game and a special bat that contains a combination of electronic, mechanical and optical components. The bat 4 includes a centrifugal or other inertial mechanical switch 5 and infrared (IR) Light-Emitting Diodes

(LEDs) 10 for transmitting an infrared signal. The mechanical switch 5 comprises a disc 15 that moves longitudinally in a guide housing 16. When the bat 4 is swung, the disc 15 is propelled toward the outer end of the bat 4 pressing a switch activator 17 against a return spring 18 to close or open a switch to modulate the LEDs.

Applicants respectfully submit that Lipps does not teach or disclose, nor would it be obvious to one of ordinary skill in the art to modify Lipps to arrive at, a piezolelectric buzzer that has a piezoelectric ceramic plate in which the main surfaces of the piezoelectric ceramic plate are in parallel with a surface of the flat ball hitting portion of the input device, as recited by Claim 1. Rather, Lipps teaches a bat with no flat ball hitting portion that could be arranged in parallel with the main surfaces of a piezoelectric ceramic plate. In Lipps, the acceleration of the bat 4 trips the switch 5 as a result of centrifugal force to indicate a time when the animated batter on the video console swings (see Col. 3, ll. 13-16). Lipps simply operates on centrifugal force and does not detect a rotational force or translation of the bat (parallel displacement) that is made possible by the arrangement of a piezoelectric ceramic plate with a main surface in parallel with a surface of the flat ball hitting portion of a racket-type input device, as recited by Claim 1. The surface-parallel arrangement of Claim 1 permits detection of a rotational force in a direction perpendicular to the centrifugal force. Contrary to Lipps, in which the bat is a circular cylinder and does not have a flat hitting portion, features recited in Claim 1 direct a player to grasp the input device in a manner so that the flat ball hitting portion is perpendicular to the moving direction of the racket-type input device. Therefore, because the piezoelectric buzzer is arranged in the surface-parallel manner with the flat ball hitting portion of the input device, as recited by Claim 1, a rotating force can be detected.

Applicants respectfully submit that Marinelli does not cure the deficiencies of Lipps. Marinelli teaches a device for measuring a movable object, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display. An object unit, is embedded, secured, or attached to the movable object of interest, and consists of an accelerometer network, electronic processor circuit, and a radio transmitter (Abstract). The radio transmitter 106 transmits motion data received from the acceleration sensor network 102 to the monitor unit 108 by radio signal. The speed of an object is calculated based on the duration of the motion event and the manually input distance between two objects (e.g., pitcher and catcher) (Col. 11, ll. 26-32). Although Marinelli discloses that the acceleration sensor network 102 may contain accelerometers of the piezoelectric type, Marinelli does not teach or suggest a piezolelectric buzzer that has a piezoelectric ceramic plate in which the main surfaces of the piezoelectric ceramic plate are in parallel with a surface of the flat ball hitting portion of a racket-type input device, as recited by Claim 1.

For at least the reasons stated above, Lipps and Marinelli, alone or by any combination, do not teach or suggest each and every one of the features of Claim 1. As such, the Applicants respectfully submit that one of ordinary skill in the art would not find it obvious to modify Lipps and/or Marinelli, to arrive at the features recited by Claim 1. Accordingly, Claim 1 should be deemed allowable over Lipps and/or Marinelli.

Furthermore, the Applicants respectfully submit that Tosaki, Lipson, Nomura and Zur, alone or by any combination, fail to cure the deficiencies of Lipps and Marinelli with respect to Claim 1. Tosaki discloses an acceleration sensor 105 that outputs an analogue signal which is directly proportional to the acceleration acting on an input device 1. An

encoder 106 converts the value of the analogue signal output by the acceleration sensor 105 when a reset signal is input from the oscillator 109 to digital data. Lipson discloses a computer 42 having six processes which are implemented as a combination of computer hardware and software that includes controlling the direction of a hit through timing and joystick control. Nomura discloses a golf club 1 that includes a club head or hitting section 2 having a triaxial acceleration sensor 1 arranged therein. The triaxial acceleration sensor 1 is constructed so as to output acceleration data in three detection-axis directions through three lead wires (see Col.4, ll. 3-5 and 38-42). Zur discloses a training arrangement 10 that includes a low profile support or housing 11 that rests on the ground. The housing contains detecting devices 13.1 – 13.3 which act as transceivers for emitting and receiving light signals. An implement 12 reflects the light as it passes over the housing and the transceiver (see Fig. 1 and Col. 5, ll. 5-30).

Tosaki, Lipson, Nomura and Zur fail to teach or suggest a ball game apparatus that includes, among other features, a racket-type input device having a flat ball hitting portion and a piezoelectric buzzer incorporated in said racket-type input device that has a piezoelectric ceramic plate in which the main surfaces of the piezoelectric ceramic plate are in parallel with a surface of the flat ball hitting portion of the input device, as recited by Claim 1. As such, the Applicants respectfully submit that one of ordinary skill in the art would not find it obvious to modify Lipps, Marinelli, Tosaki, Lipson, Zur and Nomura, alone or by any combination, to arrive at the features recited by Claim 1. Accordingly, Claim 1, should be deemed allowable over Lipps, Marinelli, Tosaki, Lipson, Zur and Nomura.

Claims 12, 26 and 39 recite a ball game apparatus that includes, among other features, a game processor for receiving an acceleration correlated signal and

determining, based on said acceleration correlated signal and a moving timing of said ball character that is a position of said ball character in a depth direction in said screen, a moving direction of said ball character as a parameter for movement of the ball character.

The Office Action asserts that a hit is produced by "right timing" the timing of both the ball and the bat in Lipps (see page 18, line 9). The Office Action asserts that it is obvious for those skilled in the art to take into account the position in the depth direction in determining whether a hit is produced (see page 18, lines 11-14). However, Claims 12, 26 and 39 are directed to determination of the moving direction of the ball character based on an acceleration correlated signal, derived from movement of the input device, and the moving timing of the ball character that is the position of the ball character in the depth direction. Therefore, the present invention determines the movement direction of a ball character after a hit by using the acceleration correlated signal and the depth of the ball character on the screen at the time of the swing.

Applicants respectfully submit that Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, do not teach or suggest the features similarly recited by Claims 12, 26 and 39. Lipps simply determines the presence or absence of ball impact by the timing of a centrifugal switch being turned on (col. 3, lines 12-18). In Tosaki, ball impact is determined at the timing of the depression of a trigger button (col. 16, lines 47-49). Then, the strength of the swing is calculated on the basis of the acceleration signal from the acceleration sensor, and the path of the swing is calculated based on the angle of the bat (col. 16, lines 40-47). In Lipson, the ball impact is determined at the timing of the depression of the trigger button (Step 214 in Fig. 4d). Then, the path of the returned ball is calculated based on the initial hit angle of the ball and the initial speed of the ball at the

time when the ball is released from the bat (Step 426 in Fig. 7). The initial hit angle of the ball is decided by the position of the joystick at the timing of the button depression (col. 5, lines 17-18 and col. 15, line 67, to col. 16, line 2). In Marinelli, the reference is directed to a measurement device that measures the speed and parameters of the flying body by use of the acceleration meter and indicates the measured values to the player (col. 2, lines 27-35). Nomura is directed to measuring the locus and parameters of a golf ball at rest on the basis of an acceleration sensor. Zur directly states that determining values for the movement of a ball after its encounter with an implement is not the subject of the invention and therefore would not be discussed in detail. The slight discussion discloses that the path is merely calculated based on data obtained from the game play (see col.10, lines 19-34).

For at least the reasons stated above, Applicants respectfully submit that Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, do not teach or suggest determining the movement direction of a ball character by using the acceleration correlated signal and the depth of the ball character on the screen at the time of the swing, as similarly recited by Claims 12, 26, and 39. As such, the Applicants respectfully submit that one of ordinary skill in the art would not find it obvious to modify Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur, alone or by any combination, to arrive at the features recited by Claims 12, 26, and 39. Accordingly, Claims 12, 26 and 39 should be deemed allowable over Lipps, Tosaki, Lipson, Marinelli, Nomura and Zur.

Claims 3-5, 9-11, 15, 16 and 49 depend from Claim 1; Claims 14, 17-25 and 48 depend from Claim 12; Claims 27-38 depend from Claim 26; and Claims 40-47 depend from Claim 39. It is respectfully submitted that these dependent claims be deemed

allowable for at least the same reasons that Claims 1, 12, 26 and 39 are allowable, as well as for the additional subject matter recited therein.

Applicants respectfully request withdrawal of the rejections.

New Claims 50-51

Applicants respectfully submit that Claims 50-51 are allowable for at least the same reason(s) Claims 1, 12, 26, and 39 are allowable, as well as for the additional subject matter recited therein.

Conclusion

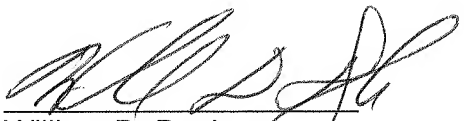
In view of the above, Applicants respectfully request withdrawal of the outstanding rejections, allowance of Claims 1, 3-5, 9-12 and 14-51, and the prompt issuance of a Notice of Allowability.

Prompt and favorable examination on the merits is respectfully requested.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 100341-00008**.

Respectfully submitted,



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